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EXAMINER

LIANG, GWEN

ART UNIT PAPER NUMBER

2162

DATE MAILED: 11/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/013,097	Applicant(s) MORGAN ET AL.	
	Examiner GWEN LIANG	Art Unit 2162	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2004 and 29 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is responsive to communications through the applicant's amendments, filed on 11/17/2004 and 7/29/2005 respectively.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract exceeds 150 words. Please fix it according to the guidance stated above.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding independent claims 1, 4, 7, 10, the claimed subject matter "the object" in the last line of the first limitation renders the claims indefinite because there are two

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antecedent occurrences of "object" (i.e. "each object" and "a corresponding object") and therefore it is unclear which "object" is considered to be its antecedent.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-12 are rejected under 35 U.S.C. 102(e) as being anticipated by

Nguyen et al., "Nguyen" (U.S. Patent No. 6,119,130).

With respect to claim 1, Nguyen discloses a system ...comprising:

means for specifying an evolved property definition, for each object having a property in the first implementation that is different from a corresponding property of a corresponding object in the second implementation (See for example: col. 2 lines 56-58, "A mechanism is also provided for converting the data from the stored format to the expected format when the two formats do not match."),

wherein the evolved property definition is added as a property of the object (See for example: col. 5, lines 9-15, "Numerous applications 180 may access, update, and store data 188 through the data retrieval/update unit 182. The data retrieval/update unit 182 contains a data format conversion unit 184 for converting requested data from one format to another when the format expected by the requesting application (the "target

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format") does not match the format in which the data is actually stored (the "stored format"); col. 6, line 66 – col. 7, lines 21, "The present invention includes a mechanism for tracking the formats associated with schema versions, and for providing the appropriate format information to the data format conversion unit 184. According to one embodiment of the invention, the data format information 194 includes all of the information for converting data between schema versions. Specifically, data format information 194 includes a schema version record for each version of each data type used to store data 188. For example, if data 188 includes an instance that was stored according to the format of a "type1" data type, then data format information 194 would include format information for all versions of the type1 data type. The schema version record for a particular schema version includes format data that describes all of the properties of the schema version, including the attributes in the schema version and the type of data that is stored in each of the attributes. When a new version of a data type is created, a new schema version record is added to the data format information 194. The new schema version record includes format data that describes all of the attributes of the new version of the data type. The new schema version record is then associated with the existing schema version records that correspond to other versions of the same data type"; col. 8, lines 4-28, "As a **data type evolves from one version to the next, attributes may be added, deleted, or changed**. To accurately convert data between versions of a data type, a mechanism must be provided to indicate the correlation between a particular attribute and any corresponding attribute that appears in other versions of the same data type. According to one embodiment of the invention, the

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correlation between attributes of different versions is tracked by assigning each attribute a unique attribute identifier. When a new version of the data type is created, newly added attributes are assigned new attribute identifiers. However, existing attributes that have simply been modified in the new version of the data type maintain their attribute identifiers. For example, assume that the attributes "Type" and "Size" of the data type ENGINE1 have attribute identifiers 100 and 102, respectively. Assume also that in version 2 of the ENGINE data type the name of the "Type" attribute is changed to "Model", and a new attribute "Weight" is added. The new attribute "Weight" will be assigned a new unique attribute identifier. The Size attribute, which remains unchanged, will continue to have the attribute identifier 102. Because the "Model" attribute is a modification of the "Type" attribute, the "Model" attribute will have the same attribute identifier (i.e. 100) as the "Type" attribute"; col. 10, lines 30-60, "When the expected format and the stored format do not match, then the data contained in an instance must be converted from the stored format to the target format before the data is supplied to the requesting application. According to one embodiment of the invention, data format conversion unit 184 performs the conversion process by **creating a target instance that corresponds to the stored instance**, but in which **the data is stored in the target format**.... For attributes that are present in both the target and stored formats, but that have been changed, conversion operations are performed to convert the data from the stored format to the target format. For example, if the target format specifies that an attribute holds a fixed point decimal value and the stored format specifies that the same attribute holds an integer, then **the integer that is stored in the**

attribute in the stored format is converted to a fixed point decimal value and stored in the target instance of the object”); and

means for redirecting accesses to a property in the first implementation using the evolved property definition to access the corresponding property in the data stored in the in the second implementation (See for example: col. 2 lines 38-43, wherein the means for redirecting accesses is inherent since the motivation of Nguyen is to provide a method and apparatus that allows software to access data even when the format of the data is based on a different schema version than the schema version supported and expected by the software; col. 2 line 46-48, “A method and apparatus that allow schema evolution to occur without requiring applications that expect older schemas to be recompiled is provided.”, wherein means for redirecting accesses is also inherent; col. 53-58, wherein the evolved property definition being used to redirect access is inherent because the mechanism provided for converting the data from the stored format to the expected format corresponds to the claimed “evolved property definition”, as defined in the applicant’s specification page 7 lines 8-9).

Claim 2 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Nguyen discloses a system wherein the evolved property definition includes a reference to stored instructions for deriving a property in the first implementation from data stored in the second implementation (See for example: col. 2 lines 53-58; Fig. 1b “DATA FORMAT CONVERSION UNIT” and “STORED VERSION INFORMATION”).

Claim 3 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Nguyen discloses a system wherein the means for specifying comprises:

means for accessing stored information describing the first implementation of the metadata schema and the second implementation of the metadata schema (See for example: col. 4 lines 61-66); and

means for determining a difference between the first implementation of the metadata schema and the second implementation of the metadata schema (See for example: col. 10 lines 30-60).

With respect to claim 4, Nguyen discloses a system ...comprising:

means for specifying a synthesized property definition for each object having a property in the first implementation for which a corresponding object in the second implementation lacks a corresponding property (See for example: col. 10 lines 46-51, "For attributes that are present in the stored format that do not exist in the target format, no data is placed in the target instance. For attributes that are not present in the stored format but are present in the target format, user-defined default values or NULL values are stored in the target instance of the object. For example, a NULL string may be placed in the target instance for a string attribute that exists in the target format but not in the stored format."), wherein the synthesized property definition is added as a property of the object (In the example above, the user-defined default values demonstrates that synthesized property has been added to the target object to accept the user-defined default values, and also refer to the reasoning stated in claim 1 for the limitation wherein the property definition is added as a property of the object); and

means for maintaining information about accesses to the synthesized property definition (See for example: col. 5, lines 25-36, "According to one embodiment, the expected version of requested data is determined by the expected version determination unit 190 based on expected version information 186. The stored version of requested data is determined by the stored version determination unit 196 based on stored version information 198 stored with the data 188. The data format determination unit 192 determines the formats associated with the stored and expected schema versions based on data format information 194 maintained by the data format determination unit 192"; Figure 5, elements 520, 522).

Claim 5 is rejected for the reasons set forth hereinabove for claim 4 and furthermore Nguyen discloses a system wherein the synthesized property definition includes a reference to stored instructions for deriving a property in the first implementation from data stored in the second implementation (See for example: col. 2 lines 53-58; Fig. 1b "DATA FORMAT CONVERSION UNIT").

Claim 6 is rejected for the reasons set forth hereinabove for claim 4 and furthermore Nguyen discloses a system wherein the means for specifying comprises:

means for accessing stored information describing the first implementation of the metadata schema and the second implementation of the metadata schema (See for example: col. 4 lines 61-66);

means for determining a difference between the first implementation of the metadata schema and the second implementation of the metadata schema (See for example: col. 10 lines 30-33).

Claims 7-9 are rejected on grounds corresponding to the reasons given above for claims 1-3.

Claims 10-12 are rejected on grounds corresponding to the reasons given above for claims 4-6.

Response to Arguments

7. Applicant's remarks regarding that it is unclear to the Applicant what is objectionable in the abstract, and that accordingly, no changes have been made to the abstract in the reply have been fully considered. However it was clearly stated in the Office Action mailed on 05/17/2004 that the abstract should be in narrative form within the range of 50-150 words. The abstract contains more than 150 words. Therefore the Specification remains objected.

8. Applicant's arguments regarding that the claims as amended are distinguished from Nguyen, at least by reciting that "evolved property definitions" (claims 1 and 7) or "synthesized property definitions" are "added as a property of the object", have been fully considered but they are not persuasive. As reasons stated for claims 1 and 7 in this office action, Nguyen teaches in many sections from col. 5 – col. 10 that any types of changes in property definitions are saved within the versioned schema records, which

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can further be seen in Figures 3a and 4a. A schema refers to the data structure of database objects, including the relationship of an object with other objects in the database. All the information, including attributes, contained in the schema is regarded as the property definition of objects in the database. Nguyen teaches in the section of "Converting Data Between Schema Versions", columns 10-11 that during data format conversion, the new format of an object property is saved in a target instance in the schema, wherein it is inherent that the conversion rules, together with the target instance are saved as part of the property definition of an object (no matter which type of data format conversion, i.e. evolved or synthesized). Therefore the examiner maintains that Nguyen teaches the limitation of "evolved property definitions" and "synthesized property definitions" being added as a property of the object as claimed in the applicant's invention.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GWEN LIANG whose telephone number is 703-305-3985. The examiner can normally be reached on 9:00 A.M. - 5:30 P.M. Monday and Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JOHN BREENE can be reached on (703) 305-9790. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

G.L.
17 November 2005

Gwen S. Wassum
Primary Examiner